Audit

Report

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YEAR 2000 STATUS OF THE
ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE

Report Number 99-162   May 17, 1999

Office of the Inspector General
Department of Defense

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above OCA Representative for resolution.

Acronyms

ACEPOD	Advanced Medium Range Air-to-Air Missile Captive Equipment Pod
AMRAAM	Advanced Medium Range Air-to-Air Missile
JSPO	Joint Systems Program Office
Y2K	Year 2000

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

May 17, 1999

MEMORANDUM FOR ASSISTANT SECRETARY OF THE NAVY (FINANCIAL
MANAGEMENT AND COMPTROLLER)
ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)

SUBJECT: Audit Report on Year 2000 Status of the Advanced Medium Range
Air-to-Air Missile (Report No. 99-162)

We are providing this audit report for your information and use. We conducted the audit in response to a requirement in the National Defense Authorization Act for FY 1999. Because this report contains no recommendations, no written comments were required, and none were received. Therefore, we are publishing this report in final form.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Richard B. Vasquez at (703) 604-9094 (DSN 664-9094) (rvasquez@dodig.osd.mil) or Ms. Mary Lu Ugone at (703) 604-9049 (DSN 664-9049) (mlugone@dodig.osd.mil). See Appendix B for the report distribution. The audit team members are listed inside the back cover.

David K. Steensma
Deputy Assistant Inspector General
for Auditing

Year 2000 Status of the
Advanced Medium Range Air-to-Air Missile

Executive Summary

Introduction. The National Defense Authorization Act for FY 1999 requires the Inspector General, DoD, to selectively audit information technology and national security systems certified as year 2000 compliant to evaluate the ability of systems to successfully operate during the actual year 2000, including the ability of the systems to access and transmit information from point of origin to point of termination. This is one in a series of reports addressing that requirement. In addition, this is also one in a larger series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 computing challenge. For a listing of audit projects addressing the issue, see the year 2000 webpage on the IGnet at http://www.ignet.gov.

Objectives. The overall audit objective was to evaluate the ability of the Advanced Medium Range Air-to-Air Missile system to operate successfully in the year 2000, including the system's ability to access and transmit information from point of origin to point of termination. Additionally, the audit determined whether an adequate contingency plan exists to ensure continuity of operations and whether the system status reporting has been accurate.

Results. The Air-to-Air Joint Systems Program Office effectively assessed year 2000 issues to ensure year 2000 compliance of the Advanced Medium Range Air-to-Air Missile. The Advanced Medium Range Air-to-Air Missile does not contain or process dates and, therefore, does not require a specific weapon system Y2K contingency plan. However, Raytheon Systems Company was responsible for supporting the operation and deployment of the Advanced Medium Range Air-to-Air Missile, had developed a contingency plan, and was continuing to monitor Y2K issues for fulfillment of its support responsibilities. The risk was low that the Advanced Medium Range Air-to-Air Missile would not successfully operate because of year 2000 problems (finding A).

The Navy inaccurately reported the Advanced Medium Range Air-to-Air Missile Captive Equipment Pod status in the DoD and Naval year 2000 databases as a mission-critical Navy system. The Advanced Medium Range Air-to-Air Missile Captive Equipment Pod is not a Navy system or a mission-critical system. As a result of the audit, the Department of the Navy Chief Information Officer corrected the inaccurate reporting by deleting it from the Naval year 2000 database and reporting the deletion to the Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) Year 2000 Office (finding B).

Management Comments. We provided a draft of this report on April 23, 1999. Because this report contains no recommendations, written comments were not required, and none were received. Therefore, we are publishing this report in final form.

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Background

DoD Year 2000 Management Strategy. In his role as the DoD Chief Information Officer, the Senior Civilian Official, Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), issued the "DoD Year 2000 Management Plan" (DoD Management Plan) version 2.0, in December 1998. The goal of the DoD year 2000 (Y2K) program is to ensure the continuance of a mission-capable force able to execute the National Military Strategy before, on, and after January 1, 2000, unaffected by the failure of mission-critical or support systems to properly process date-related information.

Air Force Year 2000 Weapon System Strategy. The Air Force Y2K Weapon System Strategy, version 3, July 16, 1998, provides guidance to programs regarding Y2K analysis, verification, certification, and reporting requirements for all weapon systems. The weapon system strategy for addressing the Y2K is based on the DoD Management Plan and Air Force guidance.

Congressional Requirement. The National Defense Authorization Act for FY 1999 requires the Inspector General, DoD, to selectively audit information technology and national security systems certified as Y2K compliant to evaluate the ability of systems to successfully operate during the actual Y2K, including the ability of the systems to access and transmit information from point of origin to point of termination.

Advanced Medium Range Air-to-Air Missile. The Advanced Medium Range Air-to-Air Missile (AMRAAM) is a new-generation radar-guided air-to-air missile carried by fighters, with high capability to attack low-altitude targets. The AMRAAM has an all-weather, beyond-visual-range capability and is scheduled to be operational beyond Y2K. The AMRAAM is procured for the Air Force, the Navy, and America's allies. The AMRAAM program improves the aerial combat capabilities of U.S. and allied aircraft to meet the current and future threat of enemy air-to-air weapons. The AMRAAM enables the pilot to aim and fire several missiles simultaneously at multiple targets. The pilot may then perform evasive maneuvers while the missiles guide themselves to their targets. The AMRAAM is currently operational with the Air Force F-15, F-16, and developmental F-22; Navy F/A-18; and other U.S. allied aircraft.

Advanced Medium Range Air-to-Air Missile Captive Equipment Pod. The Advanced Medium Range Air-to-Air Missile Captive Equipment Pod (ACEPOD) is a test asset used to verify AMRAAM missile software both pre-launch and post-launch. The ACEPOD is composed of the basic AMRAAM interface with additional discretes for the control and monitoring of pod operation. The ACEPOD is a simulated AMRAAM that is used to develop AMRAAM missile software. The ACEPOD has no combat capability and is not deployed on the operational units.

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Program Management Responsibility. The Air Force Air-to-Air Joint Systems Program Office (Air-to-Air JSPO) has program management responsibility for the AMRAAM and ACEPOD. The Air-to-Air JSPO has contracted day-to-day asset management tasks to Raytheon. As part of Acquisition Reform and Vision 2000, the Air-to-Air JSPO and Raytheon are operating under the Total System Performance Responsibility concept. Under that concept, the contractor is to perform the tasks deemed necessary and sufficient to develop, deliver, warrant, and support affordable combat-capable and readily available weapons systems. The Government is to commit to a reasonably stable production program, establish contractor control and accountability, and support a long-term pricing strategy.

Year 2000 Status. The Air-to-Air JSPO certified the AMRAAM as Y2K compliant on October 13, 1998, on the basis that the missile does not contain or process dates. The Air Force Program Executive Office for Weapons certified the AMRAAM as Y2K compliant on November 18, 1998. The Air Force Y2K Program Management Office issued the Y2K certification control number on November 24, 1998. However, the AMRAAM was inadvertently reported with a certification level 1, which is full independent testing, rather than certification level 5, which is does not process date related data. The reporting inaccuracy was brought to the attention of the Air Force Y2K Program Management Office and the Air-to-Air JSPO.

Before the March 31, 1999, DoD Y2K database, the ACEPOD was reported as a Navy mission-critical system, with a Y2K certification date of December 22, 1993. See Finding B for further details on the reporting of the ACEPOD. See Appendix A for a discussion of the audit scope and methodology, including a discussion of the scope of our review of the AMRAAM and ACEPOD systems.

Objectives

The overall audit objective was to evaluate the ability of the AMRAAM system, which was certified as Y2K compliant on November 24, 1998, to operate successfully in the Y2K, including the system's ability to access and transmit information from point of origin to point of termination. Additionally, the audit determined whether an adequate contingency plan exists to ensure continuity of operations and whether the system status reporting has been accurate. See Appendix A for a discussion of the audit scope and methodology.

A. Year 2000 Assessment of the Advanced Medium Range Air-to-Air Missile

The Air-to-Air JSPO effectively assessed Y2K issues to ensure Y2K compliance of the AMRAAM. The Air-to-Air JSPO certified the AMRAAM on October 13, 1998, on the basis that the missile does not contain or process dates. The Air Force Y2K Program Management Office issued the Y2K certification control number on November 24, 1998. The Raytheon Systems Company determined, by both inspection and test, that the AMRAAM embedded missile software is Y2K compliant and has only a single location that contains date information. The date information is used for configuration management and is not used by the embedded software in any way. In addition, the Air Force Air Warfare Center conducted an operational evaluation of the F-15C and AMRAAM weapon system in the Y2K environment. Therefore, the risk that the AMRAAM would not successfully operate because of Y2K problems was low.

Certification Process

DoD Requirements. The DoD Management Plan, Section A.4.5, describes the Y2K certification process, which requires that the system developers, maintainers, and functional proponent certify and document each system's Y2K compliance. Appendix G of the DoD Management Plan contains a sample Y2K compliance checklist.

Air Force Requirements. The Air Force Y2K Weapon System Strategy provides the process to assess Y2K compliance status for weapons systems. The Weapon System Strategy states that if a system has been assessed as not performing any time or date calculations, the system should be certified and reported as compliant. The Air Force weapon system Y2K certification process requires the completion of the certification package and the submission of the completed certification package to the Air Force Y2K Program Management Office to obtain a certification control number. The completed certification package consists of the Y2K Compliance Certification Sheet certified by the single manager and a General Officer Level Signature Sheet for Y2K System Certification. In addition, the Air Force Y2K Implementation Plan, Section J, "Air Force Certification Process," January 1999, states that a system cannot be reported as certified until it is issued a certification control number from the Air Force Y2K Program Management Office.

AMRAAM Certification. The Air-to-Air JSPO certified the AMRAAM on October 13, 1998, on the basis that the missile does not contain or process dates. The Air Force Y2K Program Management Office issued the Y2K certification control number on November 24, 1998. The following table shows the events that led to the AMRAAM Y2K compliance certification.

AMRAAM Y2K Compliance Certification Process

Event	Date
The Air-to-Air JSPO signed the Y2K Compliance Certification Sheet, which certified that the AMRAAM does not contain or process dates.	October 13, 1998
↓	
The Air Force Program Executive Office for Weapons signed the General Officer Level Signature Sheet for Y2K System Certification.	November 18, 1998
↓	
The Air-to-Air JSPO submitted a copy of the AMRAAM certification package to the Air Force Y2K Program Management Office.	November 24, 1998
↓	
The Air Force Y2K Program Management Office issued a Y2K certification control number that officially certified the AMRAAM.	November 24, 1998

Raytheon Assessment Process

The Raytheon Systems Company determined, by both inspection and test, that the AMRAAM embedded missile software was Y2K compliant and has only a single location that contains date information. The date information was entered to indicate when the missile was programmed and was used for configuration management. The date was not used by the embedded software in any way.

Contingency Plan. The Raytheon Systems Company prepared the AMRAAM Y2K Contingency Plan, version 1, December 15, 1998. The contingency plan describes the methodology for assessing AMRAAM Y2K compliance. The Raytheon Systems Company has compiled a list of all software used in the development and production of the variants of the AMRAAM. The Raytheon Systems Company analyzed the AMRAAM embedded software by inspection,

automated tools, vendor information, and testing. The Raytheon Systems Company retains the results for the embedded software in the AMRAAM software development files.

Any tool determined to be noncompliant is further evaluated for the criticality of its need. If a noncompliant tool is no longer required for development or production, it is surplused. If a noncompliant tool is still required, both replacement and potential work-arounds are evaluated for complexity and risk. If a tool is compliant in the near term, its long-term use is evaluated for possible risk. The contingency plan contains tables that summarize the Y2K analysis for both development and production test equipment. In addition, potential risk areas and risk resolution methods are identified for each tool. Any tool deemed to be not fully compliant is discussed further in the AMRAAM Y2K Developer's Warning Guide as to its impact and proposed mitigation efforts.

Summary. The Raytheon Systems Company determined that the AMRAAM was Y2K compliant and the accompanying development and test software either was or was to be made Y2K compliant before the Y2K. It said it would continue to monitor and test AMRAAM development and test software to ensure Y2K compliance. In addition, it was developing the AMRAAM Y2K Developer's Warning Guide for those tools that were usable but had to be handled in specific ways to preclude Y2K problems.

The AMRAAM does not contain or process dates and, therefore, does not require a specific weapon system Y2K contingency plan. Operational contingency plans for circumstances in which the AMRAAM may be employed are beyond the scope of this review. However, Raytheon Systems Company was responsible for supporting the operation and deployment of the AMRAAM, had developed a contingency plan, and was continuing to monitor Y2K issues for fulfillment of its support responsibilities.

Audit Limitation. We did not verify the information contained in the Raytheon Systems Company contingency plan. Under the Total System Performance Responsibility concept, the Raytheon Systems Company was to perform the tasks deemed necessary and sufficient to develop, deliver, warrant, and support affordable combat-capable and readily available weapons systems. We believe that the Air-to-Air JSPO and Raytheon were taking the steps necessary to ensure Y2K compliance for the AMRAAM.

Combat Capability Demonstration

The F-15C and AMRAAM weapon system was identified as part of the Air Force critical thin line of systems. From November 23 through December 15, 1998, the Air Force Air Warfare Center conducted an operational evaluation of the F-15C and AMRAAM weapon system in the Y2K environment. The Headquarters, Air Force Test and Evaluation, directed the Air Combat Command to conduct its operational evaluation to demonstrate weapon system end-to-end Y2K compliance. A single AMRAAM and one

drone kill were authorized to conduct the demonstration. Because only one AMRAAM was allocated for expenditure in the operational evaluation, the date selected was February 29 through March 1, 2000. Those dates would allow simultaneous validation of both the Y2K and leap year dates. The operational evaluation addressed the following critical operational issue: Are any operational limitations imposed upon the F-15C and AMRAAM weapon system when placed in a Y2K environment?

Test Methods. The Air Warfare Center used three primary methods of test to address the critical operational issue: ground tests, an ACEPOD mission, and a live-missile firing. The ground tests were used to verify that F-15C airborne software and F-15C and AMRAAM operational ground support equipment function properly before and after key Y2K date and time conditions. An ACEPOD mission uses a captive AMRAAM guidance section in an airworthy pod to gather missile-seeker performance data against an airborne target. The AMRAAM was launched in an operationally representative environment against the single drone, with all applicable weapon system components forced to a date of February 29, 2000.

Test Results. No system degradations were evident during the ground testing, which consisted of cycling through the various critical Y2K dates. The planned live-fire launch was also simulated in the laboratory, and the aircraft worked without degradation, successfully guiding a simulated missile to a simulated target. Additionally, several pieces of F-15C ground and intermediate support equipment were tested, and they performed as advertised. ACEPOD missions were flown with shooter and chase aircraft software loaded. Several passes against the target were made with the date set to February 29, 2000. Then the clocks were allowed to roll forward to March 1, 2000, after which additional ACEPOD passes were made. No Y2K anomalies were noted. The F-15C aircraft fired an AMRAAM at a target in an operationally-representative environment with the central computer software date set to February 29, 2000. The F-15C correctly initialized and supported the missile, which functioned normally, guiding to a direct hit. The target was destroyed upon impact. The computerized fault reporting system date was set to February 29, 2000, and was used post-mission to download mission cartridges. It accepted the date, and no anomalies were noted.

Conclusions. The Air Warfare Center concluded that the operational evaluation satisfied the critical operational issue, demonstrating that no operational limitations are imposed upon the F-15C and AMRAAM weapon system when placed in the Y2K environment. Ground tests provided a thorough evaluation of avionics, as well as ground and intermediate support equipment. Flight tests demonstrated end-to-end compliance of the entire weapon system.

Aircraft Platforms

The following aircraft currently use the AMRAAM: the Air Force F-15 Eagle and F-16 Falcon and the Navy F/A-18 Hornet. In addition, the AMRAAM can be operational with other aircraft, including aircraft from allied countries. The Air-to-Air JSPO is responsible for ensuring that the AMRAAM is Y2K compliant, and the aircraft system program offices are responsible for ensuring that the aircraft are Y2K compliant. The interface control document defines the interface between the AMRAAM and the aircraft.

Air Force F-15 Eagle. The F-15 System Program Office and Air Force Program Executive Office for Fighters and Bombers certified the F-15 as Y2K compliant. The Air Force Y2K Program Management Office issued a certification control number that officially certified the F-15 on October 22, 1998. The Air Force certified the F-15 in two main parts: aircraft vehicle interfaces and weapon system interfaces. Some of the aircraft vehicle and weapon system interfaces were not to be fielded until after Y2K; therefore, Y2K compliance was to be verified as part of the normal system verification and acceptance activities.

Air Force F-16 Falcon. The F-16 System Program Office certified the F-16 Falcon as Y2K compliant. The Air Force Y2K Program Management Office issued a certification control number that officially certified the F-16 on October 13, 1998. The F-16 System Program Office has broken the aircraft systems into distinct categories according to work unit codes. According to the F-16 System Program Office, all of the F-16 systems had been certified except for the mission planning system. The mission planning system is included in the Weapons category. The Y2K certification package for the mission planning system was in coordination to be certified. According to the F-16 System Program Office, the mission planning system does not interface with the AMRAAM.

Navy F/A-18 Hornet. On December 23, 1998, the Navy Program Executive Officer, Tactical Aircraft Division, certified that the F/A-18 Hornet aircraft and peculiar systems were Y2K compliant. The majority of the F/A-18 systems neither generate nor keep calendars. Those that do were tested for Y2K compliance in the avionics lab and on aircraft by inserting critical rollover dates. All systems were observed and found to function without error or interruption. One of the systems that was certified is the fire control system, also known as the stores management set. The stores management set is the system that interfaces with the AMRAAM.

B. Year 2000 Reporting of the Advanced Medium Range Air-to-Air Missile Captive Equipment Pod

The Navy inaccurately reported the ACEPOD Y2K status in the DoD and Naval Y2K databases. Before the March 31, 1999, DoD Y2K database, ACEPOD was reported as a mission-critical Navy system, with a certification date of December 22, 1993. However, ACEPOD is not a Navy system or a mission-critical system. The ACEPOD Y2K certification is based on an interface control document, system testing, and comparison to the AMRAAM. As a result of the audit, the Navy corrected the ACEPOD reporting inaccuracy by deleting it from the Naval Y2K database and reporting the deletion to the Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) Y2K Office.

Year 2000 Reporting

Before the March 31, 1999, DoD Y2K database, ACEPOD was reported as a mission-critical Navy system, with a certification date of December 22, 1993.

Reporting History. In early 1998, the Naval Air Systems Command F/A-18 Integrated Product Team developed a matrix of all equipment used by the F/A-18 Hornet aircraft. The matrix was used to input information into the Naval Y2K database and the DoD Y2K database. The matrix had no distinction of mission-critical and nonmission-critical equipment or systems. In mid 1998, the matrix was sent to Naval Air Systems Command. All equipment used by the F/A-18 Hornet aircraft was entered in the Y2K databases regardless of program management authority.

Initially, little or no DoD or Navy guidance was available for inputting systems into the Y2K databases. Later, both DoD and the Navy issued guidance that required entering systems for which a program had direct management responsibility. The Naval Air Systems Command entered the ACEPOD in error.

Program Management Responsibility. The Air-to-Air JSPO has program management responsibility for ACEPOD. The Air Force is the executive service with Navy participation in the joint program. The Program Management Directive for AMRAAM provides direction to implement the AMRAAM program, including all equipment associated with AMRAAM. The Air-to-Air JSPO considers ACEPOD as equipment associated with AMRAAM.

Nonmission-Critical Status. The ACEPOD is a test asset used to verify AMRAAM missile software both pre-launch and post-launch. The ACEPOD is a simulated AMRAAM that is used to develop AMRAAM missile software. The ACEPOD has no combat capability and is not deployed on the operational units. The F-15, F-16, and F-18 aircraft platforms that use the ACEPOD did not consider ACEPOD mission critical. In addition, the Air-to-Air JSPO and the F/A-18 Program Office do not believe that ACEPOD is a mission-critical system.

Certification Basis. The basis of certification of ACEPOD as Y2K compliant is an interface control document between the F/A-18 aircraft and ACEPOD, system testing, and comparison to the AMRAAM. The interface control document defines the physical and functional interface between the F/A-18 aircraft equipped with bomb racks and ACEPOD. The Naval Air Systems Command F/A-18 Integrated Product Team performed the ACEPOD Y2K assessment only on the system level in laboratory and on aircraft to verify the interface control document and to ensure Y2K compliance. The Naval Air Systems Command F/A-18 Integrated Product Team conducted some analyses that indicated Y2K compliance on the basis that the ACEPOD does not process date information.

The Air-to-Air JSPO incorporated a short explanation of ACEPOD in the AMRAAM Air Force Automated System Inventory entry. The ACEPOD is not a mission-critical piece of equipment, so the Air-to-Air JSPO had no intention of certifying it separately. The AMRAAM Air Force Automated System Inventory entry states the following:

> The ACEPOD has been proven to be Y2K compliant. Since it is basically similar to the AMRAAM front end, and is not a mission critical item, it was certified by comparison, and falls under the AMRAAM certification. It has the same external interfaces, internal components and uses the same software as the AMRAAM. The ACEPOD is a simple piece of test equipment used to simulate the AMRAAM as if it were actually in flight to test the internal software that will be installed in the AMRAAM. The ACEPOD does not have a rocket motor and does not get launched from the aircraft.

Actions Taken to Correct the Inaccurate Reporting

As a result of the audit, the Navy corrected the ACEPOD reporting inaccuracy. In an April 14, 1999, memorandum, the Department of the Navy Chief Information Officer responded to our discussion draft report and concurred with the finding. The Department of the Navy Chief Information Officer stated that the action was completed on April 5, 1999, when the ACEPOD (an Air Force system) was deleted from the Naval Y2K database and the deletion was reported to the Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) Y2K Office.

The F/A-18 Program Office discovered the ACEPOD Y2K reporting error before the audit. The F/A-18 Program Office notified the Navy Program Executive Officer, Tactical Aircraft Division, of the error. The Navy Program Executive Officer, Tactical Aircraft Division, then notified the Navy Y2K Program Office about the error. In fact, ACEPOD is 1 of 67 systems that the Naval Air Systems Command states were inaccurately reported in the Naval Y2K database. In late 1998, the Navy Program Executive Office for Tactical Aircraft Programs sent the Navy Y2K Program Office an informal email list of the 67 systems that were inaccurately reported in the Naval Y2K database.

Appendix A. Audit Process

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the Y2K computing challenge. For a listing of audit projects addressing the issue, see the Y2K webpage on the IGnet at http://www.ignet.gov.

Scope

Review of the AMRAAM and ACEPOD Systems. We started the audit by selecting the ACEPOD because it was reported as a Navy mission-critical system certified on December 22, 1993, according to the DoD Y2K database as of February 1999. Based on our analysis, we determined that the ACEPOD was inaccurately reported and is not a mission-critical system. We determined that the ACEPOD is a simulated AMRAAM, and the AMRAAM is the mission-critical system. Therefore, we focused our audit on the Y2K status of the AMRAAM and the inaccurate reporting of the ACEPOD.

To assign a risk that the system would not successfully operate because of Y2K problems, we reviewed and evaluated the basis of AMRAAM Y2K certification, including the Y2K compliance status of all the aircraft platforms that currently use the AMRAAM. The Technical Assessment Division for the Office of the Inspector General, DoD, assisted in reviewing and evaluating the basis of AMRAAM Y2K certification. We also analyzed the inaccurate reporting of the ACEPOD in the DoD and Naval Y2K database as a mission-critical Navy system.

DoD-Wide Corporate-Level Government Performance and Results Act Goals. In response to the Government Performance and Results Act, the Department of Defense has established 6 DoD-wide corporate-level performance objectives and 14 goals for meeting the objectives. This report pertains to achievement of the following objectives and goals.

- **Objective:** Prepare now for an uncertain future. **Goal:** Pursue a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. **(DoD-3)**

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following functional area objectives and goals.

- **Information Technology Management Functional Area.**
  Objective: Become a mission partner.
  Goal: Serve mission information users as customers. **(ITM-1.2)**

- **Information Technology Management Functional Area.**
  Objective: Provide services that satisfy customer information needs.
  Goal: Modernize and integrate Defense information infrastructure.
  (ITM-2.2)

- **Information Technology Management Functional Area.**
  Objective: Provide services that satisfy customer information needs.
  Goal: Upgrade technology base. **(ITM-2.3)**

General Accounting Office High-Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of the Y2K problem as high. This report provides coverage of that problem and of the overall Information Management and Technology high-risk area.

Methodology

Audit Type, Dates, and Standards. We performed this economy and efficiency audit from February through March 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not use computer-processed data for this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available upon request.

Management Control Program. We did not review the management control program related to the overall audit objective because DoD recognized the Y2K issue as a material management control weakness area in the FY 1998 Annual Statement of Assurance.

Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues. General Accounting Office reports can be accessed over the Internet at http://www.gao.gov. Inspector General, DoD, reports can be accessed over the Internet at http://www.dodig.osd.mil.

Appendix B. Report Distribution

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Senate Subcommittee on Defense, Committee on Appropriations
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House Committee on Government Reform
House Subcommittee on Government Management, Information, and Technology,
    Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International
    Relations, Committee on Government Reform
House Subcommittee on Technology, Committee on Science

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